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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/950,022	09/10/2001	Max F. Rothschild	P04668US3	1703
22885	7590	12/17/2002		
MCKEE, VOORHEES & SEASE, P.L.C. 801 GRAND AVENUE SUITE 3200 DES MOINES, IA 50309-2721			EXAMINER EINSMANN, JULIET CAROLINE	
			ART UNIT 1634	PAPER NUMBER 6
			DATE MAILED: 12/17/2002	

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/950,022	ROTHSCHILD ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Juliet C Einsmann	1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on \_\_\_\_\_.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.  
**Disposition of Claims**  
 4) Claim(s) 1-58 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_ is/are allowed.  
 6) Claim(s) \_\_\_\_ is/are rejected.  
 7) Claim(s) \_\_\_\_ is/are objected to.  
 8) Claim(s) 1-58 are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 11) The proposed drawing correction filed on \_\_\_\_ is: a) approved b) disapproved by the Examiner.  
 If approved, corrected drawings are required in reply to this Office action.  
 12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.  
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
 a) The translation of the foreign language provisional application has been received.  
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) Notice of References Cited (PTO-892)                            4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)                    5) Notice of Informal Patent Application (PTO-152)  
 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.                    6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-9, 50-52, and 55, drawn to methods for screening animals to determine those more likely to produce a larger litter, classified in class 435, subclass 6.
  - II. Claims 10-16, 45, 46, 54, 55, and 56, drawn to methods for screening animals to determine those more likely to exhibit improved meat quality traits, wherein a polymorphisms in the PRKAG3 gene resulting in a valine at position 199 of the polypeptide and an arginine at position 200 OR an isoleucine at position 100 and arginine at position 200, classified in class 435, subclass 6.
  - III. Claims 17-24, 45, and 50-56, drawn to methods for screening animals to determine those more likely to exhibit improved meat quality traits, wherein a polymorphisms in the PRKAG3 gene resulting in a threonine at position 30, classified in class 435, subclass 6.
  - IV. Claims 25-32, 45, 50-56, drawn to methods for screening animals to determine those more likely to exhibit improved meat quality traits, wherein a polymorphisms in the PRKAG3 gene resulting in a serine at position 52, classified in class 435, subclass 6.
  - V. Claims 33-34, drawn to nucleic acids encoding a PRKAG3 protein with a serine at position 52, classified in class 536, subclass 23.1.

- VI. Claims 35-36, drawn to a PRKAG3 protein with a serine at position 52, classified in class 435, subclass 183.
- VII. Claims 37, 39, 41 and 43, drawn to nucleic acids encoding a PRKAG3 protein with an isoleucine or valine at position 199 and an arginine at position 200, classified in class 536, subclass 23.1.
- VIII. Claims 38, 40, 42, and 44, drawn to a PRKAG3 protein with an isoleucine or valine at position 199 and an arginine at position 200, classified in class 435, subclass 183.
- IX. Claims 47-49, drawn to a method for identifying genetic markers, classified in class 435, subclass 6.
- X. Claims 57-58, drawn to methods for screening animals to determine those more likely to exhibit improved meat quality traits of larger litter sizes which screen for the presence of a short interspersed polymorphism element, classified in class 435, subclass 6.

Notes on the groupings:

Some claims are included in multiple groups because they encompass inventions from more than one group. For example, claim 45 is included in groups II, III, and IV and will be examined with the elected group.

The inventions are distinct, each from the other because of the following reasons:

- 2. Inventions I is unrelated to inventions (II, III, IV, V, VI, VIII, IX and X). Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP §

808.01). Invention I is unrelated to inventions II, III, IV, and IX because these are methods directed as having different goals and different effects. Invention I is directed towards identifying animals that produce larger litters while inventions II, III, and VI are directed towards identifying animals that have favorable meat quality traits and invention IX is directed towards identifying genetic markers. Invention I is unrelated to inventions V, VI, and VIII because these products are not disclosed as being necessary for or produced by the methods of group I. Invention I is unrelated to invention X because, while these methods share the goal of identifying animals likely to produce large litters, they utilize the examination of different polymorphisms which are structurally distinct from one another.

3. Inventions I and VII and inventions II and VII and inventions IV and V are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the products of groups V and VII can be used in other methods such as for the expression of the encoded polypeptide.

4. Inventions II, III, and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions while, sharing the goal of identifying animals with favorable meat quality, utilize the examination of different polymorphisms which are structurally distinct from one another.

5. Invention II is unrelated to inventions V, VI, and VIII. Inventions II-IV are unrelated to inventions IX and X. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the products of inventions V, VI, and VIII are not disclosed as being used in or necessary for the practice of invention II. Inventions II-IV are unrelated to invention IX because inventions II-IV are related to the identification of animals with favorable meat qualities, while invention IX is directed towards identifying animals that have favorable meat quality traits and invention IX is directed towards identifying genetic markers. Inventions II-IV are unrelated to invention X because, while these methods share the goal of identifying animals with favorable meat characteristics, they utilize the examination of different polymorphisms which are structurally distinct from one another.

6. Invention III is unrelated to inventions V, VI, VII, and VIII. Inventions IV and inventions VI, VII, and VIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are not disclosed as capable of use together and they have different modes of operation as the invention of groups III and IV are methods while the inventions of groups V, VI, VII, and VIII are products that are not disclosed as being used in the method of group III or group IV, as appropriate.

7. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as demonstrated by their different classification and recognized

divergent subject matter and because inventions I-X require different searches that are not coextensive, examination of these claims would pose a serious burden on the examiner and therefore restriction for examination purposes as indicated is proper.

**FURTHER RESTRICTION REQUIREMENT APPLIED TO GROUP IX:**

This group recites the determination of four different polymorphisms in the alternative. Upon election of group IX, applicant should further elect a polymorphism for examination. Methods which utilize each individual polymorphism are distinct from one another because they utilize distinct products. The examination of a method utilizing each polymorphism is a significant burden on the examiner because each one would require a separate search in the art as well as separate consideration for issues under 112 1<sup>st</sup> paragraph.

**FURTHER RESTRICTION REQUIREMENT APPLIED TO CLAIMS 50-52, 54, 55,  
(GROUPS I, II, III, AND IV):**

Groups I, III, and IV include claims 50-52 which recites a screening method that examines “one or more” polymorphic sites in the PRKAG3 gene. Groups I-IV include claims 54 and 55 which recite screening methods that examine “at least two” polymorphisms. The examination of methods that recite each of these sites individually poses an undue burden on the examiner for reasons previously discussed. If applicant elects one of groups I, III or IV for examination, applicant is required to select one combination of polymorphisms selected from those listed in the claim for examination.

8. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

9. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juliet C. Einsmann whose telephone number is (703) 306-5824. The examiner can normally be reached on Monday through Friday, from 9:00 AM until 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, W. Gary Jones can be reached on (703) 308-1152. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 and (703) 305-3014.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.



Juliet C. Einsmann  
Examiner  
Art Unit 1634



W. Gary Jones  
Supervisory Patent Examiner  
Technology Center 1600

December 13, 2002